

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-5. (Cancelled).

6. (Previously Presented) A method of manufacturing a semiconductor device, said method comprising:

forming an amorphous semiconductor film on an insulating surface;

providing a metal element being capable of promoting crystallization of the amorphous semiconductor film to form a first metal element added region and a second metal element added region;

crystallizing the amorphous semiconductor film so that crystal growths proceed in crystal growth directions parallel to the insulating surface from the first metal element added region and the second metal element added region thereby to form a first crystalline portion and a second crystalline portion, respectively, in a crystalline semiconductor film; and

patterning the crystalline semiconductor film to form at least one crystalline semiconductor island using only the first crystalline portion while the second crystalline portion is not used to form the crystalline semiconductor island,

wherein the first metal element added region is away from the second metal element added region,

wherein carriers move in the crystalline semiconductor island in a carrier moving direction identical with the crystal growth direction,

wherein the second metal element added region is located apart from the crystalline semiconductor island by a distance, and

wherein the first metal element added region has a length extending longer from an end portion of the crystalline semiconductor island in a longitudinal direction of the first metal element added region.

7. (Currently Amended) ~~A~~ The method according to claim 6,  
wherein lengths of the first metal element added region and the second element added region are set to 50% or more of a crystal growth distance.

8. (Currently Amended) ~~A~~ The method according to claim 6,  
wherein the metal element comprises at least one selected from Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

9. (Previously Presented) A method of manufacturing a semiconductor device, said method comprising:

forming an amorphous semiconductor film on an insulating surface;  
selectively providing a metal element being capable of promoting crystallization of the amorphous semiconductor film into at least a first region and a second region of the amorphous semiconductor film to form a first metal element added region and a second metal element added region, respectively;

crystallizing the amorphous semiconductor film so that crystal growths proceed in parallel to the insulating surface from each of the first metal element added region and the second metal element added region to form a first crystalline semiconductor region and a second crystalline semiconductor region, respectively; and

forming at least one active region of the semiconductor device in the first crystalline semiconductor region while the second crystalline semiconductor region is not used to form an active region of the semiconductor device,

wherein the first metal element added region is away from the second metal element added region.

10. (Currently Amended) A The method according to claim 9,  
wherein the metal element comprises at least one selected from Fe, Co, Ni, Ru, Rh, Pd,  
Os, Ir, Pt, Cu and Au.

11. (Currently Amended) A The method according to claim 9,  
wherein the metal element is provided by an ion implanting method.

12. (Currently Amended) A The method according to claim 9,  
wherein the metal element is provided by coating a solvent comprising the metal  
element.

13. (Cancelled).

14. (Currently Amended) A The method according to claim 9,  
wherein the amorphous semiconductor film comprises silicon.

15. (Currently Amended) A The method according to claim 9,  
wherein the semiconductor device includes at least one selected from the group  
consisting of an n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not higher than 90 mV/dec  
while the p-channel thin film transistor has a second S value not higher than 100 mV/dec.

16. (Currently Amended) A The method according to claim 9,  
wherein the semiconductor device includes at least one selected from the group  
consisting of an n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not lower than 75 mV/dec  
while the p-channel thin film transistor has a second S value not lower than 75 mV/dec.

17. (Cancelled).

18. (Currently Amended) A The method according to claim 6,  
wherein the amorphous semiconductor film comprises silicon.

19. (Cancelled).

20. (Currently Amended) A The method according to claim 6,  
wherein the semiconductor device includes at least one selected from the group  
consisting of an n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not higher than 90 mV/dec  
while the p-channel thin film transistor has a second S value not higher than 100 mV/dec.

21. (Currently Amended) A The method according to claim 6,  
wherein the semiconductor device includes at least one selected from the group  
consisting of an n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not lower than 75 mV/dec  
while the p-channel thin film transistor has a second S value not lower than 75 mV/dec.

22. (Cancelled).

23. (Currently Amended) A The method according to claim 9,  
wherein crystal growth state is controlled by the second metal element added region.

24. (Previously Presented) A method of manufacturing a semiconductor device, said  
method comprising:  
forming an amorphous semiconductor film on an insulating surface;  
providing a metal element being capable of promoting crystallization of the amorphous  
semiconductor film to a selected region of the amorphous semiconductor film;

crystallizing the amorphous semiconductor film to form a crystalline semiconductor film so that a crystal growth proceeds in a direction parallel to the insulating surface from a metal element added region; and

patterning the crystalline semiconductor film to form at least one crystalline semiconductor island,

wherein the metal element added region has length extending 100 $\mu$ m or more longer from an end portion of the crystalline semiconductor island in a longitudinal direction of the metal element added region.

25. (Currently Amended) A The method according to claim 24,  
wherein the metal element comprises at least one selected from Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

26. (Currently Amended) A The method according to claim 24,  
wherein the metal element is provided by an ion implanting method.

27. (Currently Amended) A The method according to claim 24,  
wherein the metal element is provided by coating a solvent comprising the metal element.

28. (Currently Amended) A The method according to claim 24,  
wherein the amorphous semiconductor film comprises silicon.

29. (Currently Amended) A The method according to claim 24,  
wherein the semiconductor device includes at least one selected from the group consisting of an n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not higher than 90 mV/dec while the p-channel thin film transistor has a second S value not higher than 100 mV/dec.

30. (Currently Amended) A The method according to claim 24,  
wherein the semiconductor device includes at least one selected from the group  
consisting of an n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not lower than 75 mV/dec  
while the p-channel thin film transistor has a second S value not lower than 75 mV/dec.

31. (Previously Presented) A method of manufacturing a semiconductor device, said  
method comprising:  
forming an amorphous semiconductor film on an insulating surface;  
providing a metal element being capable of promoting crystallization of the amorphous  
semiconductor film to at least two disconnected selected regions of the amorphous  
semiconductor film;  
crystallizing the amorphous semiconductor film to form a crystalline semiconductor film  
so that crystal growths proceed in directions parallel to the insulating surface from metal element  
added regions; and  
patterning the crystalline semiconductor film to form at least one crystalline  
semiconductor island,  
wherein a portion of the crystalline semiconductor film formed by using one metal  
element added region is not used to form crystalline semiconductor islands.

32. (Currently Amended) A The method according to claim 31,  
wherein lengths of the metal element added regions are set to 50% or more of a crystal  
growth distance.

33. (Currently Amended) A The method according to claim 31,  
wherein the metal element comprises at least one selected from Fe, Co, Ni, Ru, Rh, Pd,  
Os, Ir, Pt, Cu and Au.

34. (Currently Amended) A The method according to claim 31,

wherein the metal element is provided by an ion implanting method.

35. (Currently Amended) A The method according to claim 31,  
wherein the metal element is provided by coating a solvent comprising the metal  
element.

36. (Currently Amended) A The method according to claim 31,  
wherein the amorphous semiconductor film comprises silicon.

37. (Currently Amended) A The method according to claim 31,  
wherein the semiconductor device includes at least one selected from the group  
consisting of an n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not higher than 90 mV/dec  
while the p-channel thin film transistor has a second S value not higher than 100 mV/dec.

38. (Currently Amended) A The method according to claim 31,  
wherein the semiconductor device includes at least one selected from the group  
consisting of an n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not lower than 75 mV/dec  
while the p-channel thin film transistor has a second S value not lower than 75 mV/dec.

39. (Currently Amended) A The method according to claim 31,  
wherein crystal growth state is controlled by the metal element added region that is not  
used to form crystalline semiconductor islands.

40. (Previously Presented) A method of manufacturing a semiconductor device, said  
method comprising:  
forming an amorphous semiconductor film on an insulating surface;

providing a metal element being capable of promoting crystallization of the amorphous semiconductor film to at least two disconnected selected regions of the amorphous semiconductor film;

crystallizing the amorphous semiconductor film to form a crystalline semiconductor film so that crystal growths proceed in directions parallel to the insulating surface from metal element added regions; and

patterning the crystalline semiconductor film to form at least one crystalline semiconductor island,

wherein at least one of the metal element added regions has length extending 100 $\mu$ m or more longer from an end portion of the crystalline semiconductor island in a longitudinal direction of a metal element added region, and

wherein a portion of the crystalline semiconductor film formed by using one metal element added region is not used to form crystalline semiconductor islands.

41. (Currently Amended) A The method according to claim 40,  
wherein the metal element comprises at least one selected from Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

42. (Currently Amended) A The method according to claim 40,  
wherein the metal element is provided by an ion implanting method.

43. (Currently Amended) A The method according to claim 40,  
wherein the metal element is provided by coating a solvent comprising the metal element.

44. (Currently Amended) A The method according to claim 40,  
wherein the amorphous semiconductor film comprises silicon.

45. (Currently Amended) A The method according to claim 40,



wherein the semiconductor device includes at least one selected from the group consisting of an n-channel thin film transistor and a p-channel thin film transistor,

wherein the n-channel thin film transistor has a first S value not higher than 90 mV/dec while the p-channel thin film transistor has a second S value not higher than 100 mV/dec.

46. (Currently Amended) A The method according to claim 40,  
wherein the semiconductor device includes at least one selected from the group consisting of an n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not lower than 75 mV/dec while the p-channel thin film transistor has a second S value not lower than 75 mV/dec.

47. (Currently Amended) A The method according to claim 40,  
wherein crystal growth state is controlled by the metal element added region that is not used to form crystalline semiconductor islands.

48. (Previously Presented) A method of manufacturing a semiconductor device, said method comprising:  
forming an amorphous semiconductor film on an insulating surface;  
providing a metal element being capable of promoting crystallization of the amorphous semiconductor film to a selected region of the amorphous semiconductor film;  
crystallizing the amorphous semiconductor film to form a crystalline semiconductor film so that a crystal growth proceeds in a direction parallel to the insulating surface from a metal element added region; and  
patterning the crystalline semiconductor film to form at least one crystalline semiconductor island,  
wherein the metal element added region has length extending 100 $\mu$ m or more longer from an end portion of the crystalline semiconductor island in a longitudinal direction of the metal element added region, and  
wherein the crystalline semiconductor island constitutes a TFT of an inverter circuit.

49. (Currently Amended) A The method according to claim 48,  
wherein the metal element comprises at least one selected from Fe, Co, Ni, Ru, Rh, Pd,  
Os, Ir, Pt, Cu and Au.

50. (Currently Amended) A The method according to claim 48,  
wherein the metal element is provided by an ion implanting method.

51. (Currently Amended) A The method according to claim 48,  
wherein the metal element is provided by coating a solvent comprising the metal  
element.

52. (Currently Amended) A The method according to claim 48,  
wherein the amorphous semiconductor film comprises silicon.

53. (Currently Amended) A The method according to claim 48,  
wherein the inverter circuit includes at least one selected from the group consisting of an  
n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not higher than 90 mV/dec  
while the p-channel thin film transistor has a second S value not higher than 100 mV/dec.

54. (Currently Amended) A The method according to claim 48,  
wherein the inverter circuit includes at least one selected from the group consisting of an  
n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not lower than 75 mV/dec  
while the p-channel thin film transistor has a second S value not lower than 75 mV/dec.

55. (Previously Presented) A method of manufacturing a semiconductor device, said  
method comprising:

forming an amorphous semiconductor film on an insulating surface;  
providing a metal element being capable of promoting crystallization of the amorphous semiconductor film to at least two disconnected selected regions of the amorphous semiconductor film;  
crystallizing the amorphous semiconductor film to form a crystalline semiconductor film so that crystal growths proceed in directions parallel to the insulating surface from metal element added regions; and  
patterning the crystalline semiconductor film to form at least one crystalline semiconductor island,  
wherein a portion of the crystalline semiconductor film formed by using one metal element added region is not used to form crystalline semiconductor islands, and  
wherein the crystalline semiconductor island constitutes a TFT of an inverter circuit.

56. (Currently Amended) A The method according to claim 55,  
wherein lengths of the metal element added regions are set to 50% or more of a crystal growth distance.

57. (Currently Amended) A The method according to claim 55,  
wherein the metal element comprises at least one selected from Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

58. (Currently Amended) A The method according to claim 55,  
wherein the metal element is provided by an ion implanting method.

59. (Currently Amended) A The method according to claim 55,  
wherein the metal element is provided by coating a solvent comprising the metal element.

60. (Currently Amended) A The method according to claim 55,

wherein the amorphous semiconductor film comprises silicon.

61. (Currently Amended) A The method according to claim 55,  
wherein the inverter circuit includes at least one selected from the group consisting of an  
n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not higher than 90 mV/dec  
while the p-channel thin film transistor has a second S value not higher than 100 mV/dec.

62. (Currently Amended) A The method according to claim 55,  
wherein the inverter circuit includes at least one selected from the group consisting of an  
n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not lower than 75 mV/dec  
while the p-channel thin film transistor has a second S value not lower than 75 mV/dec.

63. (Currently Amended) A The method according to claim 55,  
wherein crystal growth state is controlled by the metal element added region that is not  
used to form crystalline semiconductor islands.

64. (Previously Presented) A method of manufacturing a semiconductor device, said  
method comprising:  
forming an amorphous semiconductor film on an insulating surface;  
providing a metal element being capable of promoting crystallization of the amorphous  
semiconductor film to at least two disconnected selected regions of the amorphous  
semiconductor film;  
crystallizing the amorphous semiconductor film to form a crystalline semiconductor film  
so that crystal growths proceed in directions parallel to the insulating surface from metal element  
added regions; and  
patterning the crystalline semiconductor film to form at least one crystalline  
semiconductor island,

wherein at least one of the metal element added regions has length extending  $100\mu\text{m}$  or more longer from an end portion of the crystalline semiconductor island in a longitudinal direction of a metal element added region, and

wherein a portion of the crystalline semiconductor film formed by using one metal element added region is not used to form crystalline semiconductor islands, and

wherein the crystalline semiconductor island constitutes a TFT of an inverter circuit.

65. (Currently Amended) A The method according to claim 64,  
wherein the metal element comprises at least one selected from Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

66. (Currently Amended) A The method according to claim 64,  
wherein the metal element is provided by an ion implanting method.

67. (Currently Amended) A The method according to claim 64,  
wherein the metal element is provided by coating a solvent comprising the metal element.

68. (Currently Amended) A The method according to claim 64,  
wherein the amorphous semiconductor film comprises silicon.

69. (Currently Amended) A The method according to claim 64,  
wherein the inverter circuit includes at least one selected from the group consisting of an n-channel thin film transistor and a p-channel thin film transistor,  
wherein the n-channel thin film transistor has a first S value not higher than  $90\text{ mV/dec}$  while the p-channel thin film transistor has a second S value not higher than  $100\text{ mV/dec}$ .

70. (Currently Amended) A The method according to claim 64,

wherein the inverter circuit includes at least one selected from the group consisting of an n-channel thin film transistor and a p-channel thin film transistor,

wherein the n-channel thin film transistor has a first S value not lower than 75 mV/dec while the p-channel thin film transistor has a second S value not lower than 75 mV/dec.

71. (Currently Amended) ~~A~~ The method according to claim 64,

wherein crystal growth state is controlled by the metal element added region that is not used to form crystalline semiconductor islands.